

forests. In the Dángs a selected area of about 2,000 acres round a prominent land-mark, Bilia Dongar, where young teak of excellent growth is very plentiful, was again protected against fire successfully through the assistance and co-operation of the pátil and villagers of Zaria, Boripada and Gira. The pátis were rewarded with gifts of turbans, which were presented to them at the Darbar of the Dáng Rájas, and money payments were made to villagers for their services. In the Mandvi range great improvement is apparent in fire conservancy, as traces were burnt round all the reserves by the forest guards, and the forest villagers co-operated cheerfully in extinguishing fires, and in guarding against their visitation; except for one fire, which burnt 14 acres, the forests of the Bulsár, Párdi, Chikhli and Valod talukas enjoyed complete immunity from fire.

137. Forest fires were too prevalent in the Panch Maháls division during the year as the following statement shows:—

Range.	Reserves fired.	Area of these Reserves.	Acreage burnt.
Godhra	24	23,680	5,498
Kálol	6	7,657	1,435
Hálol	5	8,397	1,895
Dohad	6	10,801	1,150
Jhálod	3	935	154
			10,132

10,132 acres in all were burnt, which is a slightly larger proportion than of the preceding year; all the reserves were fire-traced for protection.

##### 5.—GRAZING AND FODDER GRASS.

138. The grass and grazing receipts of the Northern Circle have continued to increase during the year of the report as will be seen:—

Year.	Amount.	Year.	Amount.
	Rs.		Rs.
1878-79...	42,629	1885-86	2,32,650
1879-80...	64,613	1886-87	2,37,126
1880-81...	1,00,443	1887-88	2,48,855
1881-82...	1,41,765	1888-89	3,27,165
1882-83...	1,64,444	1889-90	3,42,037
1883-84...	1,97,963	1890-91	3,61,983
1884-85...	2,25,853	1891-92	4,35,923

139. The following statement shows the revenue of the year of the different divisions under the several heads:—

No.	Division.	VALUABLE KU-RANS OF FODDER GRASS TO BE CUT AND REMOVED.	OPEN TO GRAZING,						AUCTION GRAZING.	GRASS GIVEN TO COMMISSARIAT DEPARTMENT,	Area closed to Grazing	Miscellaneous Grazing Revenue,	Total Grazing Revenue,		
			Area.	Fee.		FREE.		Area.	Reve-nue.	Area.	Money value.				
				Area.	Reve-nue.	Cattle.	Reve-nue.								
			Acres.	Rs.	Acres.	Rs.	Acres.	Rs.	Acres.	Rs.	Acres.	Rs.	Acres.	Rs.	
1	North Thána	7,904	12,165	321,985	2,411	1,018	127,827	23,983	...	...	...	...	32,616	672	13,755
2	South Thána	1,089	200	258,237	9,476	4,430	122,327	41,000	...	...	...	...	23,413	308	4,938
3	East Khándesh	20,324	19,159	717,609	196,571	59,736	7,221	2,170	...	...	...	...	38,187	6,138	85,033
4	West Khándesh	20,828	7,079	788,088	432,885	91,450	1,310	300	...	...	...	...	223,472	3,334	1,01,863
5	Násil	33,636	16,588	574,035	201,813	49,206	91,182	24,841	...	...	...	...	209,879	1,802	67,596
6	Ahmednagar	6,307	76	341,782	132,473	29,069	18,337	2,371	4,532	3,022	5,868	8,629	175,649	6,435	39,290
7	Poona	48,676	31,286	231,668	63,773	12,401	72,221	18,806	41,841	2,131	19,496	34,500	122,834	1,565	47,373
8	Satgára	46,648	27,709	255,248	112,198	14,314	137,073	33,915	...	...	...	...	136,776	2,760	44,783
9	Sholapur	29,018	12,021	48,401	30,988	8,325	10,958	2,866	...	...	...	...	40,443	3,344	23,690
10	Surat	...	...	24,011	2,689	739	1,000	250	...	...	...	...	7,079	257	996
11	Panch Maháls	16,983	1,355	175,700	17,397	5,231	47,900	13,200	494	19	...	...	1,642	1	6,606
	Total	231,462	1,28,326	3,737,864	1,202,372	2,75,919	631,466	1,63,687	46,867	5,172	24,889	43,129	11,012,970	26,606	4,35,923

140. The comparison between the receipts of 1891-92 and of the preceding year is as under :—

No.	Division.	1890-91.	1891-92.
		Rs.	Rs.
1	North Thána ...	7,232	13,755
2.	South Thána ...	7,320	4,938
3	East Khándesh	53,527	85,033
4	West Khándesh	81,275	1,01,863
5	Násik ...	56,639	67,596
6	Ahmednagar ...	35,688	39,290
7	Poona ...	55,116	47,373
8	Sátára ...	39,144	44,783
9	Sholápur ...	18,756	23,690
10	Surat ...	976	996
11	Panch Málás ...	6,310	6,606
	Total ...	3,61,983	4,35,923

141. In the North Thána division the revenue from the sale of grass in the Reserved Forests and portions of Reserved Forests, the grass of which is sold for cutting, was much better than of the previous year. A much smaller area was however sold as the list of these properties has been carefully revised by the Collector and Divisional Forest Officer, when the less valuable ones were given to grazing instead : grass in closed forests was sold when purchasers were forthcoming, and cutting of grass could be allowed without risk of injuring young forest growth : where the grass of coupes closed for reproduction of timber could not be sold, it was given to villagers for free cutting under certain regulations ; the tall and luxuriant grass in these coupes is a powerful source of danger to the plant-life in case of fires. The special grass areas sold covered 6,517 acres, and the receipts came to Rs. 11,197½ ; while by sale of grass in closed coupes Rs. 1,573 were obtained. The new grazing rules which had been introduced experimentally into the Bassein range during 1890-91 were continued during the year of the report, but were not applied to any other range. The amount of grazing fees collected in the Bassein range was only Rs. 18, and 12,862 head of cattle were given free grazing in the forests. Sixteen buffaloes and 1,026 cows were brought from outside into the district for grazing in its forests, and paid fees amounting to Rs. 727½. For the size of this division, the total amount of grazing fees collected during the year, Rs. 1,018.12-0, is very small indeed.

142. In the South Thána division the new grazing rules were introduced into two talukas, Kalyán and Bhiwndi, for trial, with indifferent results. The following table shows the differentiation of the receipts derived from grass and grazing during the year :—

Number.	Range.	Number of Fee Cattle grazed.	Amount of Fees.	Sales of Grass.			Total.
				Rs.	a.	p.	
1	Sháhpur ...	837	519 15 0	Nil.			519 15 0
2	Khardi ...	3,146	1,879 0 0	Nil.			1,879 0 0
3	Mokháda ...	1,516	338 7 0	5 0 0			343 7 0
4	Murbád ...	466	231 11 0	44 9 9			336 4 9
6	Kalyán ...	355	209 15 0	383 8 0			593 7 0
6	Bhiwndi ...	2,512	678 14 0	Nil.			678 14 0
7	Karjat ...	374	310 2 0	75 10 0			385 12 0
8	Khálapur ...	290	201 15 0	Nil.			201 15 0
	Total ...	9,476	4,429 15 0	508 11 9			4,938 10 9

143. Swine and goats are excluded altogether from the South Thána forests. The closed compartments into which no cattle are allowed are those which have come under the axe for the exploitation of timber, and are now shut up for the regeneration of the same ; and in addition thereto of 1,089 acres in the villages of Shil, Kawse, Gholeghar and Dysar in the Kalyán range, which are closed for five years for the improvement of their forest growth, altogether 23,413 acres are closed ; while the maximum permissible is one-fourth of the total forest area of the division, or about 94,324 acres. In the isáphat forest of Khatioli ten compartments have been worked out of the forty, and are now closed to cattle.

144. The receipts of the East Khándesh division from grass and grazing have increased all round as will be seen :—

	1890-91,	1891-92,	Increase.
	Rs.	Rs.	Rs.
Fee grazing ...	... 34,142	59,736	25,594
Grass sales ...	... 19,379	25,297	5,918

145. The new grazing rules have been applied generally, and the sales of grass have been more productive owing to keen competition ; 38,167 acres of forest are closed to cattle in this division, and of this portion 17,843 acres are only temporarily closed. But there has been a large increase in the number of cattle impounded in this division although the grazing revenue has increased largely, the reason being that cattle-owners refuse to buy grazing permits, saying that they do not want to graze their cattle in the forests, but they subsequently either wilfully trespass their cattle or permit the cattle to trespass. The villagers in the Bhadgaon petha have been conspicuous in such misconduct.

146. The new grazing rules were in force throughout the West Khándesh division, and the total number of cattle grazed on payment of fees was 432,385 ; there has been a decrease of 47,000 in the number of sheep, of 20,000 in calves, and 18,000 in goats, which is not regrettable ; on the other hand, the number of large cattle has increased by 15,000 and horses by 4,000. Only 1,310 head of cattle were free grazed within forest during the year, owing to the privilege of free grazing having been stopped by Government Resolution No. 7477 of the 21st October 1890, for one year, on account of the frequent and extensive forest fires. Forest villagers take grass from the open forest free of charge, and in the ranges north of the Tápti river, this privilege is enjoyed by all Bhils and other wild tribes resident in the tálukas ; out of a total forest area of 1,021,360 acres, 788,088 acres were open to grazing, and 223,472 acres were closed, while the grass on 20,827 acres was sold for cutting. The Collector has recorded the following remarks :—

"It is satisfactory to find that the number of cattle impounded has fallen from 45,821 to 24,500, nearly 50 per cent., and as the forest establishment would appear to have been if anything more on the alert, it may be taken that the people are getting to know the reserves better and are more careful. The number of cattle grazed on payment has decreased by some 64,000 head, mainly sheep, and this is somewhat extraordinary, as the free grazing was almost nil. It would have been interesting to know why the decrease in sheep took place ; have the Thilaris ceased coming into the districts ? The Collector has not received any complaints from them on the score of grazing, and is at a loss to understand the reason for the decrease."

147. The grazing revenue of the Násik division has likewise gone up ; by sale of grass from cutting Rs. 4,500 and by grazing fees Rs. 6,500 have been realised in excess of the receipts of the preceding year. The new grazing rules are enforced throughout the district, with the exception of the Peint táluka. By order of the Collector the open forests were closed against cattle from the 1st June to the 15th August, and against sheep up to the 15th September, with the exception of a block of 23,000 acres in the Nándgaon range, which was opened to sheep from the 1st August. It is reported that the forest villagers were delighted at the order to exclude sheep until the middle of September, as these animals had been in the habit of grazing the new grass down as fast as it grew in the open forests into which they are admitted and which in previous years had been available to them from the 1st June, and the large cattle in these villages had suffered in consequence. The villagers co-operated most willingly in keeping sheep out of the forest during the close time.

148. In the Ahménagar division the grazing rules were in force, and the revenue exceeds that of the previous year by Rs. 3,589 ; 132,473 head of cattle, of which 40,803 were sheep, were grazed within the forests, an area of 57,301 acres being assigned specially for the latter animals; four forest reserves, representing 727 acres 10 gunthas, the grass of which is estimated to be worth Rs. 1,163-10-2, are made available to the Remount Department for grazing; and nine forest reserves, with an area of 4,666 acres, and grass worth Rs. 7,466 annually, are placed at the disposal of the Commissariat Department for purposes of grass supply.

149. The deferred rainfall in the Poona division retarded the growth of grass and diminished the crop, so that the prices obtained for the valuable kurans, covering 48,676 acres, for the hay supply of the district, were less than of the preceding year, and amounted to Rs. 31,286. The receipts, Rs. 12,401, from fees were also less, owing probably to a greater number of cattle passed as "agricultural;" 72,221 of such and of milch cattle enjoyed free grazing in the forests. The Commissariat Department requisitioned for and secured a larger forest area than of last year to be made available to them for the grass-supply of the Government horses and cattle in Poona and Kirkee, and for the slaughter animals of the Aligaum farm, so that 19,496 acres were assigned to them for grass-supply free of charge; the estimated value of this concession being Rs. 34,500. In the villages along the western gháts grazing is sold by auction, and is not worked on the permit system; 41,841 acres were treated in this way, and produced a revenue of Rs. 2,131-9-0. The forest areas opened to fee as well as to free grazing represent 231,668 acres, while the closed area for purposes of forestry amounted to 122,834 acres, but owing to the absence of pasturage outside the forests, and to the scarcity of grass in the country, grazing was made available to the villagers by order of the Collector in the Rahu Reserved Forest of the Bhimthadi range, and in the closed forests of 20 villages in the Indápur range.

150. The new grazing rules were worked in the Sátára division; the grass on 39,791 acres was sold for Rs. 22,472-12-9 for grazing of cattle; on 6,857 acres the grass was sold for cutting, realising Rs. 5,236-9-1, while 255,248 acres were open to fee and free grazing, the fees bringing in Rs. 14,313-14-0. The portions closed for forestry aggregated 136,777 acres, and by sale of grass for cutting in parts of it Rs. 2,760 were obtained. The free grazing areas within the forest reservations before the grazing rules were applied amounted to 114,957 acres, but under present arrangements the "free cattle" numbering 137,073 had the run of 255,248 acres. Although the year was a bad one for grass and pasturage the revenue derived from grass and grazing has increased, which speaks favourably of the improvement of the grass in quality as well as in yield; but it is somewhat remarkable that despite the complaints of there being no good grazing anywhere outside of the forest boundaries, grazing permits were not taken by their owners for no less than 414,455 head of cattle in forest villages alone; this is very significant when it is remembered that in every village grazing permit books are in the hands of the village officers who are ready and eager to issue grazing permits, if only because a percentage of the collected fees is paid to them, and when it is remembered also that very large numbers of cattle trespass into the closed forests and into the open forests without permits, of which a fraction only is driven to the cattle pounds.

151. The new grazing rules were brought into force in the Sholápur division in the year of this report for the first time, and the differentiation of grazing was as under:—

- (1) Fee grazing on permits in open forests.
- (2) Free grazing on permits in open forests to agricultural and milch cattle, in villages which have contributed gáirán to forests.
- (3) Grazing on special areas; valuable kuran sold by auction.

The season for grazing extends from the 16th August to the 31st March; and the close season against grazing, during which period cattle are excluded from the open forests, extends from the 1st April to the 15th August. It is reported

that the new grazing rules have been introduced and worked in the Sholápur Division with absolutely no complaints received against them from the people of the district. There are 341 villages containing forest reserves in this division, and of these 61 only have contributed gáirán, measuring 11,720 acres to forest; 48,401 acres of forest were however open, during the year, to the grazing of fee and also of free cattle. The scale of fees charged for local cattle was—

Buffaloes ...	... 0	8 0	for the graz-
Cow, ox, horse, mule or donkey ...	... 0	4 0	ing season of
Sucking animals ...	... free		7½ months.
Agricultural and milch cattle ...	... free		

152. The cattle of professional graziers were required to pay double the above rates ; outside cattle, *i.e.*, cattle brought from outside the district, treble the above rates ; sheep and goats are not allowed into any portion of the Sholápur forests ; 10,958 animals consisting of 3,097 cows, 6,394 bullocks, 481 calves and 986 buffaloes were given free grazing permits ; while 30,936 animals consisting of 1,894 buffaloes, 28,408 cows and bullocks, with 618 calves and 66 horses took out grazing permits on payment of Rs. 8,325-8-0 in fees ; the valuable kurans representing 29,018 acres were sold by auction for grass cutting to be followed by grazing ; five reserves only of these being closed to cattle. The total area of absolute closure in the district for purposes of forestry amounted to 40,443 acres, and the total grass and grazing revenues came to Rs. 23,690 : as the rainfall was both short and untimely, and in consequence the rabi crops failed in a portion of the district, causing a scarcity of fodder outside the forest reserves, the cutting and closed forests were, under the order of the Commissioner, C. D., thrown open free to local cattle in all the ranges except Bársi after the rains ; and later on as the season advanced in response to requisitions made by the Collector, some of the plantation numbers were also opened to cattle free of charge ; and no doubt considerable benefit resulted to hungering cattle, and indirectly to the agriculture of the district, by this judicious concession to drought and scarcity of fodder grass.

153. The grazing rules worked smoothly in the Surat Division also ; the Collector has remarked that so far as the resident population is concerned he has heard no reasonable complaints, and the rules seem to have worked well. The revenue from grass and grazing increased from Rs. 600 to Rs. 996 ; more animals entered the forests for grazing, *viz.*, 2,689 against 1,482 of the previous year, and an exceptionally brisk demand sprung up for cutting and removing grass from the closed forests. The close season extended up to the 31st August.

154. In the Panch Maháls Division the old grazing arrangements were continued, and the new rules were not introduced during the year. All the forests of the division have been divided into grazing blocks with one-third of the total forest area closed for purposes of forestry against cattle, 17,597 head of cattle were provided with grazing in the open forests during the year.

155. The following statement will show the number of cattle of different kinds in the several Collectorates of the Northern Circle, according to latest returns :—

No.	Collectorate.	Cows and bullocks.	Buffaloes.	Horses.	Asses and mules.	Sheep.	Goats.	Camels.	Elephants.	Total.	REMARKS.
1	Thána ...	307,413	75,892	1,481	41	3,203	39,878	...	...	427,408	
2	Khándesh ...	694,216	169,122	28,630	8,096	34,578	151,290	...	...	1,080,917	
3	Násik ...	473,332	68,191	13,955	...	...	137,793	...	...	708,863	
4	Ahmednagar ...	649,717	38,885	21,758	6,105	307,796	222,854	...	...	1,247,115	
5	Poona ...	455,988	68,518	11,624	4,602	224,654	113,172	...	...	878,614	
6	Sátárá ...	490,900	150,333	14,334	2,714	379,387	97,056	4	...	1,134,757	
7	Sholápur ...	437,161	70,688	12,886	3,651	263,318	113,688	9	...	900,901	
8	Surat ...	258,431	86,378	1,587	...	23,121	69,579	...	...	443,096	
9	Panch Maháls ...	250,176	36,792	2,905	2,459	6,280	30,905	44	...	329,741	
10	Ahmedabad ...	294,055	135,083	6,780	...	36,204	56,135	...	...	523,257	
11	Kaira ...	223,186	212,030	2,709	5,861	7,783	44,987	191	1	407,298	
12	Braoch ...	90,793	51,661	2,624	1,525	14,020	24,904	64	...	186,591	
Total		4,623,316	1,163,671	115,863	35,104	1,409,931	1,102,860	312	1	8,450,558	
Total for 1890-91		4,651,456	1,173,940	113,418	28,846	895,270	621,373	356	2	8,274,342	
						789	681				

156. It will be seen that there is an increase on the whole in the number of cattle, and especially in that of the sheep and goats in almost all the Collectorates of the Northern Circle.

157. Considering the short time they have been introduced, the grazing rules have worked very fairly, for they do not exact heavy fees; and with time and perseverance they will work smoothly as the people fall into their ways, and the village officers understand that the issue of grazing permits to the cattle which enter the forests to graze without having taken out permits previously, is preferable treatment of illicit grazing in *open forest* than the impounding of such cattle, unless they are goats and sheeps.

#### 6.—FENCING.

158. The fencing of exploited coupes with wire was continued in the two ranges of Dáhánu and Bassein of the North Thána Division during the year, 12,212 running feet of wire fencing having been erected, and a large quantity of wire was obtained for employment during the coming season; coupes require to be fenced on the lower boundaries in order that cattle may be kept out, but the work is expensive.

159. In the South Thána Division a wire fence 2,565 feet in length was erected round the Bendikon coupes of the Khardi range which were felled in 1888, 1890; and an additional and barbed wire was put round the Sháhápur coupes.

160. In the Niphád range of the Násik Division 260 feet of the Naitala forest reserve were fenced with Sabri (*Euphorbia tirucalli*) at a cost of Rs. 13-3-6.

161. Wire fencing was put up round the Arangaon, Valunj and Limpan-gaon Reserved Forests in the Ahmednagar division, 829 acres being enclosed by 48,080 running feet of fencing; three lines of wire were used, the first being one foot above the ground, the second two feet, and the third  $3\frac{1}{2}$  feet, the central wire on some portions being barbed wire. Teak posts were used as stobs or uprights, and were sunk  $2\frac{1}{2}$  feet in the ground, and were placed at distances of 10 feet. The cost of this fencing came to Rs. 6,367-10-6, or about Rs. 4-6-7 per 100 running feet; 15,093 lbs. of old telegraph wire ranging 600 lbs. to the mile have been received from the Telegraph Departments for further fencing purposes. In addition to the above, all the bábul compartments, which had been exploited before the rains, were enclosed by thorn hedges, and 100 bulbs of aloe (*agave americana*) were planted out by each forest guard along the boundaries of his forests, free of charge.

162. In the Poona Division wire fencing was erected along forest boundaries, as under :—

(1) 8,640 running feet at Dongargaon round a bábul reserve on the bank of the Indráyani river in the Haveli range;

(2) two miles at Lonikálbhor in the Haveli range completing the 12 miles of wire fencing of the hill-side Reserved Forest overhanging the Southern Marátha Railway line;

(3) 24,638 feet round bábul compartments at Kedgaon, Párgaon and Handalwádi in the Bhimthadi range.

8,648 lbs. of old wire were purchased from the Telegraph Department, and 2,500 teak and junglewood posts were obtained from the forests of the Haveli range and also from the South Thána division.

In addition to the above 8,740 feet of aloe and thorn fence were put up in the Indápur range, 29,294 feet of thorn fencing in the Bhimthadi range, and a small quantity in the Haveli range round exploited coupes in the bábul forests.

163. No wire fencing has yet been attempted in the Sátára division, but during the year 11,100 feet of aloe fencing were planted round small plantations, and along the edges of coupes.